

PX 458

From: [REDACTED]@gsr.io>
Sent: Friday, November 20, 2015 6:38 PM
To: [REDACTED]
Cc: [REDACTED]@gsr.io>
Subject: XRP Sales Optimization
Attach: XRP Sales Optimization (1).pdf

Good morning [REDACTED]

Please find attached the study we discussed last week. It has taken us several days to compile the necessary data, so we haven't had as much time as we would have liked to develop the study. Having said that, we feel the conclusions are correct and compelling. Happy to jump on a call to discuss any questions you might have.

Regards,

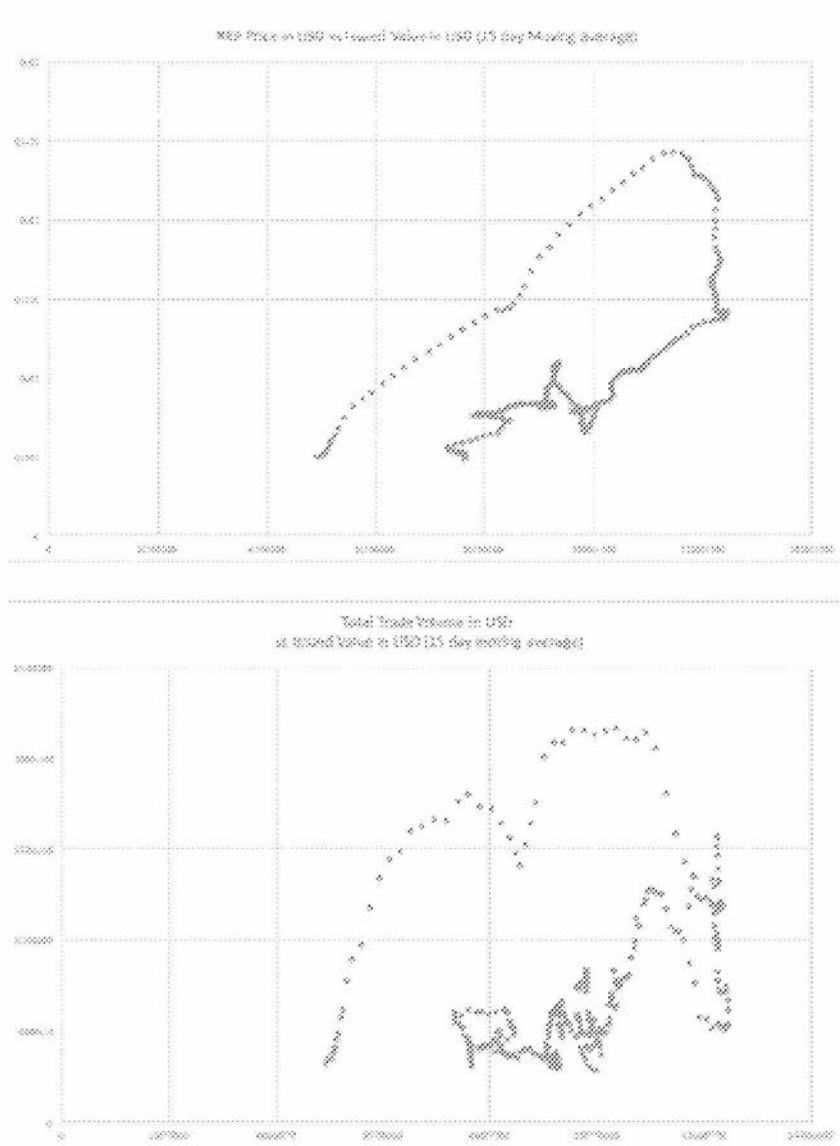
GSR

XRP Sales Optimization

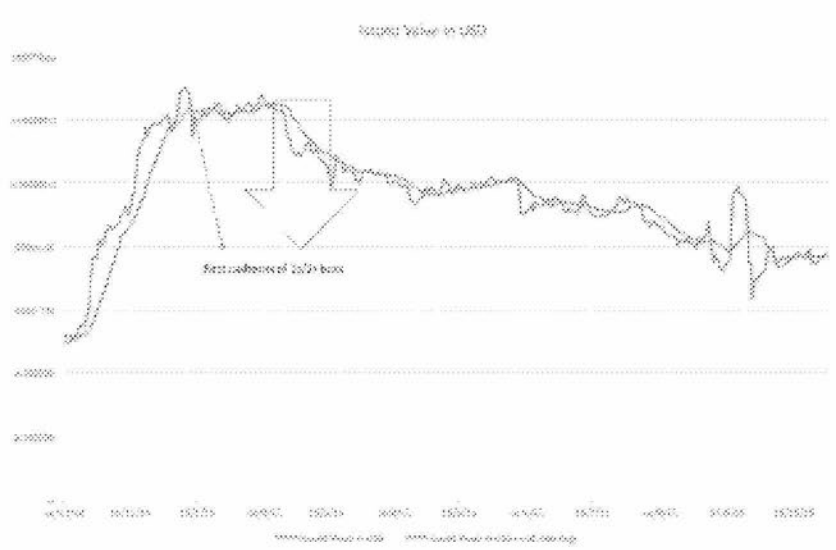
INTRODUCTION

Looking at the past 12 months of data, we observe a positive correlation between the price of XRP (in USD) and the existing money in the Ripple Network (RN). We use Issued Value (IV) as a proxy for the existing money in the RN.

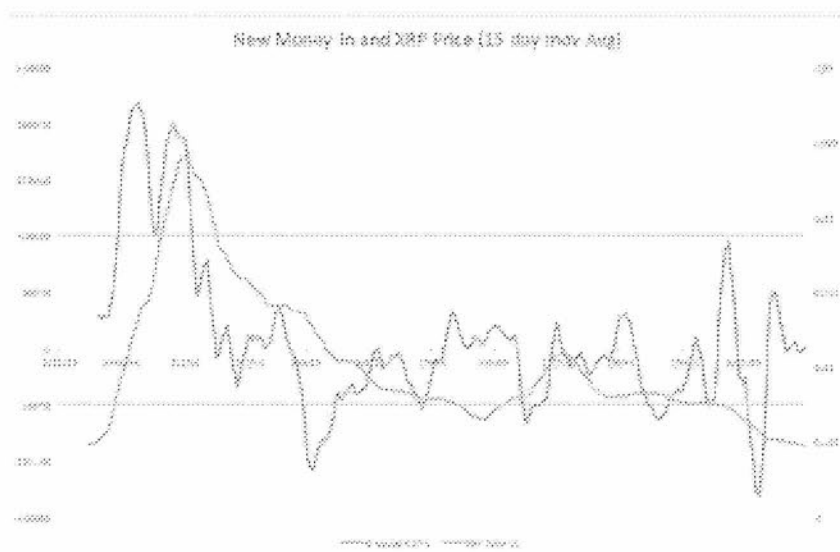
The higher the existing money in the RN, the higher the price of XRP and Total Trade Volume (TTV):



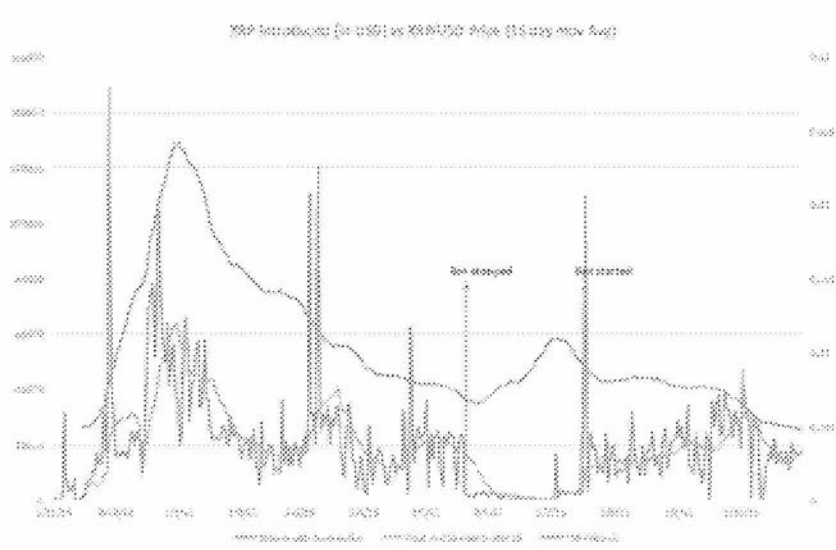
Issued value in the RN has been decreasing since the end of February. This corresponds with bot 2.t/s starting to cash out:



The pace of new money entering the RN has slowed down considerably in recent months (with the exception of JPY entering via TokyoJPY gateway in mid-September). We graph below the 15 day moving average of the change in Issued Value in USD (in blue) as a proxy for new money in. On the RH axis we plot the price of XRP in USD.



On May 15, 2015 the bot was stopped for over a month. The graph below shows the price of XRP (in blue) rebounding after the stoppage.



The previous graphs illustrate how maintaining a static selling program while new money into the RN decreases leads to a lower XRP price.

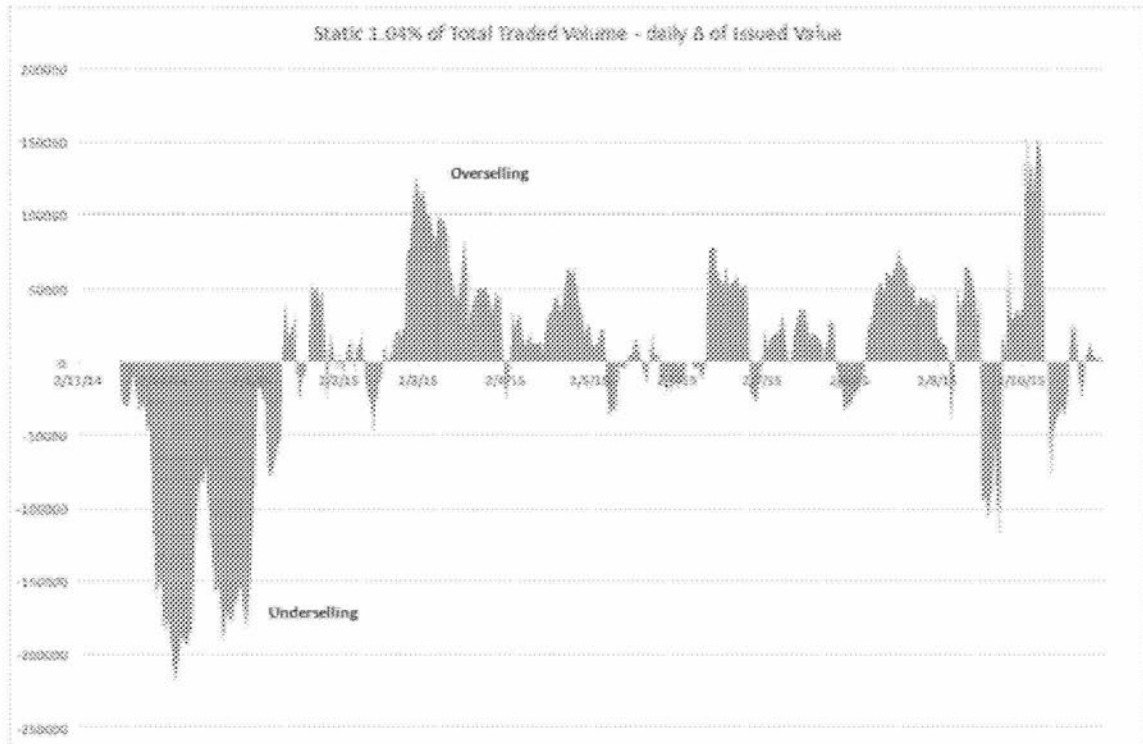
ACTIONS TO OPTIMIZE XRP SALES FORMULA

Currently bot 2t/s sells a static % of XRP-related TTV (which is ~ 80% of TTV). Over the past few months, the resulting FIAT extraction has outpaced demand from XRP buyers, and the price of XRP has fallen. It should also be noted that using a static sales % means RL hasn't profited fully from moments of high demand for XRP (i.e. December-February last year when significant funds were flowing into the RN and XRP price was spiking).

We propose switching from a static formula to a dynamic formula that takes into account demand for XRP and new money into the RN.

BALANCING SS/DD

We solve for a static selling % that would have met demand from XRP buyers over the past 12 months. We assume demand for XRP = new money into the RN = daily differences in Issued Value. This results in 1.04%. (see graph below).



Over the past 12 months, RL has extracted **\$8MM** using bot 2.t/s. This equates to a static selling % of 2.92% of TTV.

(Overlaying a static 1.04% over the same period would have resulted in only **\$2.85MM** of XRP sales. However, this is an underestimation, as it does not take into account the fact that XRP price would have been higher.)

OPTIMIZE TIMING

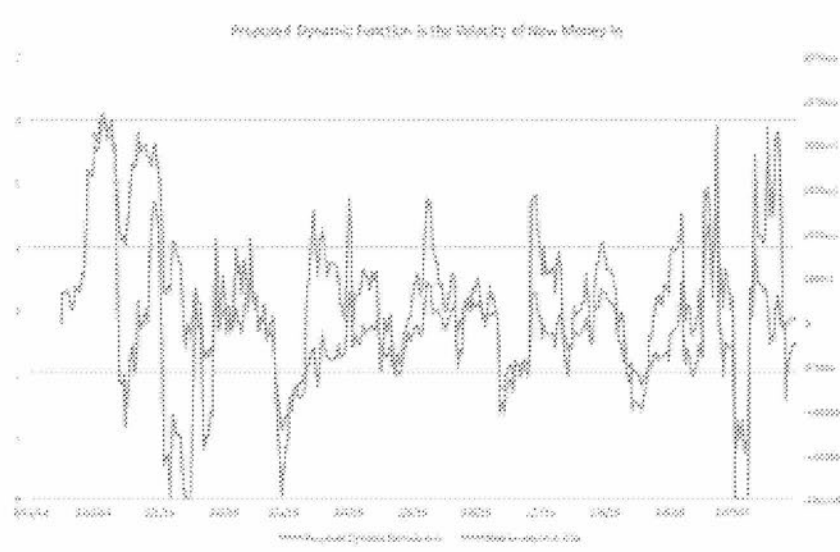
We would complement the static selling % with a dynamic function that takes advantage of the correlation we have observed between XRP price and money-in. This function increases the selling % when money is moving into the RN and vice versa. In this way, RL can take advantage of periods of time in which we expect to see XRP price appreciation and increases in TTV.

Selling formula (%) = $1.04 + f(\text{money-in})$

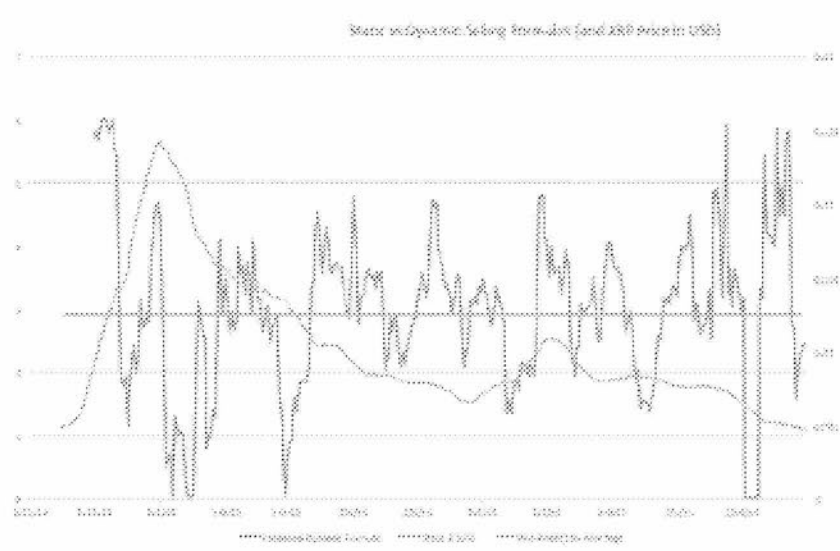
$f(\text{money-in}) = K + (\text{change in Issued Value})/\partial t$

$K = 0$ when the goal is to balance SS/DD.

The following graph shows how we obtain the dynamic formula by calculating the velocity of the money going into the RN (daily Δ of issued value).



The following graph shows (in blue) the selling % we would have applied using this new methodology. On the RH axis we plot XRP price (in USD).



From 12/01/14-10/30/15, bot 2.t/s sold 747 MM XRP for \$7.36MM. Using the proposed formula, it would have sold 15MM XRP less in order to net the same USD amount. This difference of 2% underestimates the savings. Using this dynamic formula, we would expect the overall impact on the price of XRP to be much lower, resulting in substantial additional savings.

IMPROVE EXECUTION PRICE

A further way to maximize the USD value of XRP sales is by selling the XRP to the highest bidder. Historically, the JPY and CNY markets have been the best buyers of XRP, so we propose including XRP/JPY and XRP/CNY in the MM pool.

Pros:

- i. After converting JPY and CNY to USD, the average XRP/USD price executed will be improved. Historically these currencies have traded at a 5% discount to fair value. If we are able to move 40% of the XRP sales to these currencies, **we could improve the net USD proceeds by a further 2% (40% of 5%).**
- ii. By adding crosses in XRP/JPY and XRP/CNY we will stimulate market activity, increasing Total Trade Volume and market participation.

Cons:

- i. RL will have to "wear" JPY and CNY gateway risk (which can be limited as per RL)

INCREASE LIQUIDITY

As a further refinement we propose to increase bid and offer sizes in the market making pool. This is of special consideration now that Snapswap has halted its OTC operations and part of the market is underserved. In the past, increased liquidity has resulted in increased market participation and the assumption of more risk by market players - resulting in more XRP buyers.

CONCLUSION

Given current levels of money entering the RN, it is very difficult to continue selling XRP at the current pace without affecting the value of XRP.

By switching from a static selling formula to the dynamic one proposed, and adopting the improved execution measures outlined, we believe RL can expect at least a 4% better execution price.

More importantly, we believe this new selling formula will have a less detrimental effect on XRP price, so the net cumulative effect of the daily savings will be much larger.

NON-2.1/s RELATED MEASURES:

1) We would suggest publicizing **Gatehub** gateway (and/or others) to make up for **Snapswap's** departure. In our view, the most important factor for improving XRP price is the available money in the RN. As such, any efforts to allow investors/traders to deposit funds in the RN should be pursued.

We are prepared to step-up market making liquidity in EUR_gatehub in order to offer European customers competitive pricing.

2) We recently compiled the latest ripple desktop client to make it easier for market participants to trade and we can publicize the compiled version on our webpage.